

2024-1630

In The
United States Court Of Appeals
For The Federal Circuit

WAG ACQUISITION, LLC,
Appellant,

v.

GOOGLE LLC, THE WALT DISNEY COMPANY,
DISNEY STREAMING SERVICES LLC, HULU, LLC,
NETFLIX, INC.,
Appellees.

ON APPEAL FROM THE UNITED STATES PATENT AND TRADEMARK OFFICE
PTO-1 : IPR2022-01411; IPR2023-00813

REPLY BRIEF OF APPELLANT

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INTRODUCTION

Google's Responsive Brief fails to identify substantial evidence for any of the following:

- **Reasonable expectation of success** in the use of repeated internet requests to stream Hill's media, in accordance with independent claims 1, 6, and 11.
- **Reasonable expectation of success** in using a reliable transmission protocol or TCP for internet streaming in accordance with dependent claims 4-5, 9-10, and 14-15.
- With regard to dependent claims 2, 7, and 12, that a record of the highest index among the elements received constitutes a record of which element was **the last element received**.

A failure that runs throughout Google's approach to these issues is that it simply *assumes* that the internet neatly passes through all data from a remote source as and when requested at the destination, with no substantial evidence to support that assumption. The actual record, on the other hand, attests only to the unpredictable nature of data transport over the internet, particularly as to the timing of data delivery. Google's consistent failure throughout these proceedings to address this factor undermines its position on this appeal, mandating reversal.

ARGUMENT

I. LEGAL STANDARDS PERTINENT TO GOOGLE’S RESPONSIVE BRIEF

A. Reasonable Expectation of Success Is a Necessary Finding for Obviousness

Whether a POSITA at the time of the claimed invention would have had a reasonable expectation of success (“RES”) is a necessary finding to support a conclusion of obviousness. *See* Opening Br. at 27 (DI 17).

The necessity of RES in establishing a case of obviousness was part of the analysis set forth in *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007). “The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Id.* at 416. “If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.” *Id.* at 421. Evidence of a reasonable expectation of success is required to establish obviousness. “[O]ne must have a motivation to combine *accompanied by* a reasonable expectation of achieving what is claimed in the patent-at-issue.” *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1368 (Fed. Cir. 2016) (emphasis added).

This Court has also held that evidence in the record going to MTC does not necessarily imply substantial evidence of RES:

[W]e ... emphasize the clear distinction in our case law between a patent challenger's burden to prove that a skilled artisan would have

been motivated to combine prior art references and the additional requirement that the patent challenger also prove that the skilled artisan would have had a reasonable expectation of successfully achieving the claimed invention from the combination ... A finding by the Board that a patent challenger has demonstrated a motivation to combine references does not necessarily imply that the challenger has also met its burden of showing a reasonable expectation of success....

Eli Lilly & Co. v. Teva Pharms. Int'l GmbH, 8 F.4th 1331, 1344 (Fed. Cir. 2021) (internal citations omitted).

B. Burden Is on the Obviousness Challenger

The burden of persuasion as to RES is on Google: “It [i]s [the challenger’s] burden to demonstrate both ‘that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, *and that the skilled artisan would have had a reasonable expectation of success in doing so.*’” *Intelligent Bio-Sys.*, 821 F.3d at 1367-68 (emphasis added) (quoting *Kinetic Concepts, Inc. v. Smith & Nephew, Inc.*, 688 F.3d 1342, 1360 (Fed. Cir. 2012)).

As stated above, this Court has made clear that motivation to combine and reasonable expectation of success are separate and distinct issues that a patent challenger must show in an obviousness analysis. *Eli Lilly*, 8 F.4th at 1344.

C. The Scope of the “Success” to Be Reasonably Expected Is Measured by the Scope of What Is Claimed, and Is a Question of Law

The “success” contemplated by RES is success at achieving what is claimed, *i.e.*, commensurate with the scope of what is claimed. In addition to showing a

motivation to combine, the challenger must show “a reasonable expectation of *achieving what is claimed in the patent-at-issue.*” *Intelligent Bio-Sys.*, 821 F.3d at 1367 (emphasis added). The showing of RES must be “that the combination would have worked for its intended purpose.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1326 (Fed. Cir. 2009); *see also In re Rinehart*, 531 F.2d 1048, 1053-54 (C.C.P.A. 1976) (requisite “predictability of success” not shown where record lacked evidence that “would lead one of ordinary skill to anticipate successful production *on a commercial scale* from a combination of [recited] elements,” as the claims required (emphasis added)).

“Whether the Board applied the correct standard in assessing reasonable expectation of success ... is a question of law The reasonable-expectation-of-success analysis *must be tied to the scope of the claimed invention.*” *Teva Pharms. USA, Inc. v. Corcept Therapeutics, Inc.*, 18 F.4th 1377, 1381 (Fed. Cir. 2021) (emphasis added) (citing *Allergan, Inc. v. Apotex Inc.*, 754 F.3d 952, 966 (Fed. Cir. 2014)); *see also Allergan*, 754 F.3d at 966 (“[F]ailure to consider the appropriate scope of the ... claimed invention in evaluating the reasonable expectation of success ... constitutes a legal error”). Limitations related to the intended use of a claimed method (as in claim 1) “are undoubtedly relevant to the reasonable expectation of success.” *Eli Lilly*, 8 F.4th at 1345.

D. Mere Assertion That Technology Is in the “Predictable Arts” Does Not Satisfy or Shift the Challenger’s Burden on RES

“Unpredictability of results equates more with nonobviousness rather than obviousness.” *Honeywell Int’l Inc. v. Mexichem Amanco Holding S.A. de C.V.*, 865 F.3d 1348, 1356 (Fed. Cir. 2017). Google seeks to avoid the need to address RES by labelling the subject matter as being in the “predictable arts.” Resp. Br. at 32 & n.10.

The mere characterization of a field as being a “predictable art,” without more, is a mere conclusion and cannot, in itself, be taken as substantial evidence that it is predictable that particular combinations of elements *within* the field will or will not achieve specific claimed objectives. Such a mere characterization of an entire field as a whole cannot be taken to satisfy or shift the challenger’s burden to show RES. *See Juniper Networks, Inc. v. Correct Transmission, LLC*, No. 2023-1046, 2024 WL 3517862, at *6 (Fed. Cir. July 24, 2024) (nonprecedential) (conclusory expert opinions did not establish RES when rebutted with credible testimony).

Google asserts that the subject matter claimed here falls within the zone of predictability because there were “well-established” and even “standardized” “tools and mechanisms for transmitting data over the Internet.” Resp. Br. at 32 n.10.

As addressed below at § III.A, this contention is insufficient to constitute substantial evidence of RES, because its overly broad scope (*e.g.*, unspecified “tools and mechanisms for transmitting data”) fails to address the applicability of such “tools and mechanisms” where repeated client requests drive the streaming for successive streaming data elements.

II. THE CRITERION FOR THE “SUCCESS” TO BE REASONABLY EXPECTED IS SUCCESSFUL STREAMING OVER THE INTERNET BY A MECHANISM WHEREIN COMMUNICATION IS DRIVEN BY REPEATED CLIENT REQUESTS FOR THE SUCCESSIVE MEDIA DATA ELEMENTS COMPRISING THE DESIRED STREAM, AS CLAIMED

WAG’s first issue presented for appeal was “[w]hether the PTAB construed the claims without due regard for limitations that required making a plurality of requests for the duration of playing an audio or video program received over the internet?” Opening Br. at 2. In its Responsive Brief, Google characterizes this issue as “irrelevant” (Resp. Br. at 16-18) but does not counter WAG’s interpretation.

Claim interpretation may bear directly on the required substance of a “reasonable expectation of success.” *See Eli Lilly*, 8 F.4th at 1339-40 (addressing aspects of obviousness challenge based on “reasonable expectation of achieving a result” that “*sound in claim construction*” (emphasis added)). Google’s attempt to write off claim construction as “irrelevant” left it with no response on the material issue of what was the “success” that was to be expected.

The issues here that “sound in claim construction” are not simply a matter of a *preamble* reciting “[a] method for operating a media player to receive and play *an audio or video program*”—although as *Eli Lilly* notes, such preambles in method claims are often in themselves limiting. 8 F.4th 1331, 1340 (“we have generally construed statements of intended purpose in such method claims as limiting”).

Rather, under limitations recited in the *body* of each of the challenged claims, there are express requirements for “automatic” “additional” requests (such as the first request recited), for “subsequent” numbered elements, to actively maintain a specified buffer level “during playing” (*see* Opening Br. at 19-21). These limitations make clear that “success” would require the ability to make *and receive* the results of such *repeated* requests *over the internet* in a manner that results in uninterrupted delivery of the program material.

As mentioned above, Google’s Responsive Brief (at 32 n.10) seeks to shortcut this analysis by arguing that the success of anything attempted over the internet is assured because the entire field is alleged to be in the “predictable arts.” As noted above, such a broad characterization of a field as a whole does not substitute for substantial evidence.

To the contrary, Google had the burden to show (indeed, *in its Petition*), that a POSITA would have had a reasonable expectation of success in crafting the source manager 120 of Hill that faced an internet source so as to retrieve frames from such

a source by repeated requests, over the internet connection, each specifying the pertinent local frame numbers, for the successive frames comprising the requested portion of the stored clip. That is, a reasonable expectation that fashioning the source manager in such a manner would have been successful in obtaining the requested clip material for uninterrupted normal-speed playback of clips residing on internet sources. Google did not provide any such evidence in its Petition (or otherwise).

III. AS TO CLAIMS 1, 6, AND 11, GOOGLE’S RESPONSIVE BRIEF CONFLATES MOTIVATION TO COMBINE WITH THE SEPARATE REQUIREMENT OF REASONABLE EXPECTATION OF SUCCESS AND FAILS TO IDENTIFY SUBSTANTIAL EVIDENCE OF THE LATTER

A. Reprise of Developments in the PTAB with Regard to Obviousness and Reasonable Expectation of Success as to Claims 1, 6, and 11

Petition—As noted in WAG’s Opening Brief, with regard to claims 1, 6, and 11 the Petition dwelled for pages on alleged express disclosure by Hill and offered only one wholly conclusory, afterthought sentence as to obviousness:

Nonetheless, a POSITA would consider it inherent or obvious that, in Hill, the request to the source 122 includes the clip number and/or at least the local frame number. (Polish, ¶¶121-122.)

Opening Br. at 24 (quoting Appx158 (Petition at 19)). The Petition’s one-sentence statement is the epitome of a mere conclusory (and thus ineffective) assertion as to the alleged obviousness of a specified claim limitation. The cited portion of Dr. Polish’s declaration makes a substantially identical conclusory statement with

regard to obviousness: “It would be obvious to a person of ordinary skill in the art that requests to source 122 for a new frame would specify the desired frame by frame number.” Appx806-807 (Polish ¶121).

Patent Owner Response—In its POR, WAG immediately pointed out the failure of the Petition to state a *prima facie* case of obviousness as to claims 1, 6, and 11, including its failure to provide evidence of RES. *See* Appx345, Appx348 (POR at 24, 27). The POR specifically stated:

The Petition does not explain how a POSITA would have had a reasonable expectation of success in applying the data retrieval technique used *within* Hill’s workstation to upstream retrieval over external networks including the public internet, especially given the reference’s own descriptions of the difficulties involved (e.g., “Inadequate Source Bandwidth”) in using external (distributed) sources in general. EX2007 ¶ 73.

Appx348 (POR at 27) (emphasis in boldface added).

Reply—In its PTAB Reply, Google for the first time attempted to provide an obviousness rationale with respect to claims 1, 6, and 11, under Hill:

Given Hill’s disclosure that the sources organize “clips” by “local frame number,” it is obvious to send requests to the source using a “local frame number.” (EX1002, ¶¶110, 121; PolishReply, ¶55.)

Appx411 (Reply at 8).

This assertion, however, went only to alleged MTC. It merely argued the obviousness of using local frame numbers to specify the content wanted from a source. It did not address a POSITA’s expectation of success in trying to do this as

claimed, by a process of repeated requests over the duration of the requested clip for the respective sequential elements comprising the clip. Also telling is that the only citation that fully supports even the limited MTC assertion above was “PolishReply, ¶55,” referring to a *second* declaration of Google’s expert filed with its PTAB Reply.

WAG’s Sur-reply noted that Google raised these arguments “*for the first time in reply.*” Appx466 (Sur-reply at 14) (emphasis added). Even more significantly, however, the argument Google belatedly made in its PTAB Reply *still failed* to address RES as to claims 1, 6, and 11, which as noted above is a necessary element and part of Google’s burden.

This Court can read Google’s PTAB Reply from beginning to end and not find a single sentence addressing why a POSITA would have had a reasonable expectation of success in adopting a mechanism in accordance with limitation [a(ii)] of claims 1, 6, and 11, in order to stream from internet media sources.

WAG’s Evidence—WAG submitted evidence, both in connection with its POR, and, to the limited extent permitted (*i.e.*, a second deposition of Google’s expert), in its Sur-reply, that data transmission over the internet is unpredictable as to when requested data will arrive, and that this unpredictability was the very motivation expressed for the solutions provided in the ’594 patent. WAG’s evidence included that a POSITA at the time of the claimed invention would have

regarded the substantial additional two- and three-way communications overhead of having to make a separate internet request for every sequential element constituting a stream as a strong reason not to expect success. Appx3365 (EX2007 ¶84 (WAG’s Expert)); *see also* Appx3877, 79:16-23 (Google’s expert agreeing to statement that “[t]he internet and other TCP/IP networks are challenging environments in which to deliver Realtime streaming audio video”). A list of supporting citations as to the lack of RES for adapting Hill in accordance with claims 1, 6, and 11 (limitation [a(iii)]) was set forth at page 27 of WAG’s Opening Brief. Google points to no place where any of this evidence was disputed, and it was not. WAG’s undisputed evidence also substantiated that the ability to receive all sequential elements of a requested media stream for playback, without interruption, on a timely basis, is material to successfully streaming the media. *See* Appx3338, Appx3342 (Hoarty ¶¶16-18, 25).

Google’s expert did not testify to the contrary on the above-referenced testimony of WAG’s expert (Hoarty), and, in fact, he confirmed it. *See* Appx3877 (Polish, 79:16-23); Appx4827-4828 (Polish (2d dep.), 52:13-53:17).

Final Written Decision—In the FWD, the Board took the same approach as Google’s Reply in addressing claims 1, 6, and 11 (limitation [a(iii)]). The Board did

not adopt the rationale that Hill expressly disclosed this limitation.¹ Instead, it relied on an obviousness rationale, stating:

We do not reach Petitioner’s contentions that are allegedly *based on express teachings in Hill....*

[T]he evidence of record supports that *it would have been obvious* to request each frame from an external source using a clip number and local frame number *because that is how the frames are stored*² at the external sources. *See, e.g.,* Ex. 1002 ¶¶ 110, 121; Ex. 1111 ¶ 55.

Appx32 (FWD at 32 & n.7 (the Board’s footnote as to the first quoted paragraph)) (emphasis added).

The Board’s statement quoted above cites the same Exhibits that Google’s Reply did: Ex. 1002 ¶¶ 110 (Appx797-798), 121 (Appx806-807); Ex. 1111 ¶ 55 (Appx2877-2878) (the latter, most pertinent citation being Google’s expert’s *Reply* declaration). As addressed above with regard to Google’s reliance on the same materials, none of those citations addresses RES.

¹ Google acknowledges this in footnote 8 of its Responsive Brief.

² The Board takes this allegation directly from Google (*see* Appx410 (“Hill discloses these limitations by teaching the use of ‘local frame numbers’ that identify the frames stored in sources.”) (PTAB Reply at 7)), and to the extent it implies any explicit numbering or indexing by local frame number as frames are stored at the source, it is incorrect. Contrary to Google’s repeated insistence (*e.g., id.*), Hill’s Figure 7 does *not* show that the source somehow uses local frame numbers to “organize” the media data. All that Hill says in this regard is to equate the “local frame numbers” to “reference[s] [to frames]” “according to their *position* within the clip from which they originate.” Appx979 (Hill, 5:67-6:2) (emphasis added).

The FWD's discussion of obviousness with regard to claims 1, 6, and 11 is found at Appx30-33. First, the Board concludes:

Thus, we are persuaded that Hill's reference to "forward[ing] the request to the appropriate source" teaches sending a request to a remote media source over the Internet.

Appx31. Of course, the reference says "forwarding" the request and clearly indicates that this is only via a further internal interface whose operation is not addressed. In any case, to the extent this was intended to address RES, it fails to do so, because it is not commensurate with the scope of the claim, which requires (per limitation 1[e]) sending a *repeated* sequence of requests by serial ID for the sequential elements comprising the requested stream.

The FWD put considerable weight on Hill's disclosure that:

"the buffer manager 118 . . . request[s] global frame 31" and "[t]his request is sent to the cliplist manager, which maps the global frame number to a clip number and local frame number and forwards the request to the appropriate source."

Appx31 (quoting Appx980 (Hill, 7:46-50)). The FWD continued:

Although this statement from Hill does not specify precisely what is sent in the request to the external source, it does say that Hill's cliplist manager maps the requested frame into a clip number and local frame number prior to forwarding that request. *See* Ex. 1006, 7:46–50.

Petitioner also puts forth evidence (*see* Pet. 13–14, 19; Pet. Reply 8) that Hill's external sources organize clips by local frame number. *See* Ex. 1006, 3:46–56, 5:66–6:2, 12:7–44, Fig. 7.... Thus, the evidence of record supports that it would have been obvious to request each frame from an external source using a clip number and local frame number

because that is how the frames are stored at the external sources. See, e.g., Ex. 1002 ¶¶ 110, 121; Ex. 1111 ¶ 55.

Appx32 (emphasis added) (footnote omitted). As addressed above, the “that is how the frames are stored” contention, which appears to be the thrust of the Board’s conclusion in the quoted passage, addresses why a POSITA might consider streaming from the source by repeated requesting the sequentially elements from the source by their serial IDs (*i.e.*, MTC). However, it *fails* to address *reasonable expectation of success* of trying to do so where the source is, by definition (according to the present claims), on the internet.

Despite Google’s failure ever to address RES with respect to claims 1, 6, and 11 (limitation [a(iii)]), the Board, *sua sponte* (insofar as Google never addressed it), purported to address the issue, at Appx32-33. However, it did so only in a circular manner that never states why the POSITA would have a reasonable expectation of success where the specified repeated requests were being made and had to be responded to over the internet.

In this discussion at Appx32-33, the FWD notes that Hill discloses internet sources. It also notes its prior discussion to the effect that it would have been obvious to consider external internet requests by serial ID because the sources themselves could access the clip frames in this manner.

The carryover paragraph at Appx32-33 of the FWD purports to introduce a discussion concerning reasonable expectation of success *i.e.*, in light of “the

alleged challenges of requesting video over the Internet.” But the FWD does not state what “challenges” it was referring to, or how they were overcome by the modification to Hill that the Board found obvious. The FWD never, in fact, addresses the issue of the unpredictability of the transport and delivery of the data requested, over the internet, not in just choosing the elements to send, but in the delivery itself *after* those elements have been accessed within the internet source. The latter was the point of WAG’s argument, and the issue that had to be addressed in order to establish RES, which the Board failed to address. The FWD does not cite any substantial evidence that would support a conclusion to the effect that a POSITA would have had a reasonable expectation of success in the transmission of the data accessed on the source, over the internet, in a manner workable for streaming.

In sum, the FWD pointed to no substantial evidence of RES with respect to claims 1, 6, and 11 (limitation [a(iii)]).³

³ The Board also “disagree[d] ... that the sources are not known to Hill’s workstation; Hill states that cliplist manager 116 ‘specifies where each clip can be found’ including locations on a server.” Appx33. This, however, misconstrues WAG’s point, which is that the nature of the sources is not known *in advance to the designers of the workstation*. The workstation itself must be able to handle whatever it is hooked up to—especially given that “sources vary in speed and response time as a result of their capabilities (e.g., limited I/O bandwidth) and transient events (e.g., resource contention).” Appx978, 3:22-25.

B. Google’s Responsive Brief Herein

For the first time in its Responsive Brief on appeal, Google argues, at pages 30-35, for a reasonable expectation of success with respect to claims 1, 6, and 11 (limitation 1/6/11[a(iii)]). Yet even Google’s Responsive Brief fails to point to any substantial evidence in the record that the Board did or could have cited for reasonable expectation of success as to this limitation.

Google’s Brief to this Court points to many things, of course, but none of them are substantial evidence for *a POSITA’s reasonable expectation of success* in the asserted extension of Hill to “include ‘local frame numbers’ in ‘the requests’ [*i.e.*, over the internet] to external sources.” Resp. Br. at 33 (framing the issue of what a POSITA would have needed to do).

Google states on page 31 of its Responsive Brief that “[t]he Board’s weighing of the evidence is entitled to broad deference.” This is clearly correct as a legal statement, but there has to be substantial evidence to weigh, on the side being advocated, for this principle to be of any use to Google, and there was no such evidence in the record.

“Accessing video data over the Internet was well known”—In its Responsive Brief, Google finally states, as a rationale for RES (its first attempt to do so in this case), that “accessing video data over the Internet was well-known.”

Resp. Br. at 31.⁴ Google argues that there was no evidence that “the mere fact that the request is sent over the Internet would impact the obviousness of using ‘local frame numbers’ within the request.” *Id.* at 32. But these contentions only consider responding to a single request. They fail to address the actual issue here, which is the necessity, in order to perform the claim, of making *repeated* requests throughout the streaming for the sequential elements constituting the stream, and the POSITA’s expectation that the timely receipt of the responses to *those repeated requests* would succeed.⁵ For the reasons given in WAG’s Opening Brief at 19-21, it is clear that claim 1 requires making *repeated* requests throughout the course of streaming for the sequential stream elements, and the only evidence of record is that a POSITA would have expected unacceptable overhead in adopting such an approach.⁶

⁴ The Court will see (below) that Google’s arguments as to dependent claims 4-5, 9-10, and 14-15 come down to this contention as well.

⁵ “Accessing video” could cover, for example, downloading a video file in advance of beginning playback; “push” streaming by the server (as in, for example, WAG’s U.S. 8,185,611 patent), none of which would require the repeated requests for sequential elements required under claims 1, 6, and 11, which is key to the difficulty for RES for those claims.

⁶ The Court can look through Google’s string cite on page 33 as to what it contends is the substantial evidence of reasonable expectation of success in support of the above-quoted textual assertion. None of it washes. *See, e.g.*, Appx32 (citing Hill, 3:46-56, 5:66-6:2, 7:46-50, 12:7-44); Appx797-799 (Polish Decl. ¶110); Appx806-808 (Polish Decl. ¶121); Appx2655 (Hoarty Dep., 68:5-15).

The general assertion that it was possible, in some unspecified manner, to transmit “video data” over the internet is far too broad a statement, which fails to address what the claims at issue require: using a request-based mechanism to deliver successive chunks of program material in time for each to be available when needed for uninterrupted playback. Google’s general assertions as to accessing video over the internet are insufficient to address the expectation of achieving success in what has been claimed.

Finally, Google drops a footnote seeking to rewrite the law of RES but citing nothing in support thereof. Resp. Br. 32 n.10. Google’s footnote would have it that a technology area as a whole has to be characterized as within the “unpredictable arts” in order for a requirement of RES even to apply. It submits pure attorney argument seeking to characterize the internet field *as a whole* as “predictable,” seeking to have the tribunal (PTAB or this Court) simply *disregard* actual un rebutted evidence before it of unpredictability inherent in the repeated requests necessitated by performing the claimed retrieval operations over an internet connection. Google’s footnote cites no law to support such an argument, and there is none. As noted, *supra* § I, the law is to the contrary.

Indeed, Google comes out and actually *admits* in its Responsive Brief (somehow seeking to shift the blame for this to WAG) that it “responds to WAG’s arguments [as to MTC and RES] collectively.” Resp. Br. at 47 n.15. Google of

course had a *burden* on RES, as a *separate* consideration, and totally failed to meet it.

In sum, Google submitted zero evidence that addresses RES as to claims 1, 6, and 11 (limitation [a(iii)]), either in its Petition, during the proceedings below, or afterward in this appeal. At each turn, Google reverts to its arguments as to MTC, trying to stretch them to cover RES as well, or in its last attempt, evidence that does not address the scope of what is being claimed and an effort to argue out of the law on unpredictability and the requirement for a reasonable expectation of success.

Not once has Google (or the Board) come to terms with the substantial evidence *contrary* to RES, in WAG's evidentiary submissions, as well as its own. For example, Google's own Exhibit, which it cites as to "HTTP/TCP" (*i.e.*, HTTP carried over TCP) and as somehow supporting its argument (Resp. Br. 32), says instead that "TCP is designed for reliable distribution of *non-real-time data*. When used for media streaming, it has the drawbacks of long and *unpredictable latency*, *wasted network bandwidth*, and *bursty data flow*." Appx1060. All one needs to do is read this evidence to see that none of it helps Google. Nor did the Board squarely address this issue. *See In re Gartside*, 203 F.3d 1305, 1312 (Fed. Cir. 2000) (substantial evidence standard "involves examination of the record as a

whole, taking into account evidence that both justifies and detracts from an agency's decision").

Appx1412-1423 (Ex. 1019, Willebeek/Bamba), which Google cited at Resp Br. at 32 n.10⁷ does not extend to a repeated client request structure as claimed but rather to a single, continuous download. *See* Appx1416-1417. As to actual streaming, *i.e.*, in the manner claimed, this reference states that its disclosed implementation has to interrupt itself repeatedly for buffering (*id.*) and relegates the notion of "uninterrupted" streaming only to possible "future networks." *Id.* (emphasis added).

Google needed to submit evidence that adding an external repeated-streaming request mechanism to Hill, as *in the manner claimed*, would have had a reasonable expectation of success, which Google failed to do. Google cannot meet its burden as to RES by generally characterizing the field as a whole as predictable, based on the predictability of specific operations that differ in their entire character from

⁷ In Google's direct case/Petition, Ex. 1019 was only cited for a "rate" limitation not at issue in this appeal. Appx162 (Petition at 23). Google was overreaching to cite this for RES in its PTAB Reply. In any case, the evidence as a whole must be taken into account. *Gartside*, 203 F.3d at 1312.

what is being claimed, without ever addressing the expectation for the asserted combination to be able to perform as claimed.

IV. GOOGLE HAS LIKEWISE FAILED TO POINT TO EVIDENCE OF RES FOR DEPENDENT CLAIMS 4-5,9-10, AND 14-15

Google's arguments against claims 4 and 5 come down to the purported obviousness of having used TCP or other reliable transport protocols to make the repeated requests that would have been necessary in Hill (assuming Hill otherwise taught or rendered obvious the limitations of the base independent claims), in order to meet these dependent claims.

Since Hill doesn't address internet data transport at all, Google's argument comes down to the assertion that since TCP was a widely known transport protocol, it would have been obvious to stream as in the manner ascribed to Hill by way of repeated TCP requests.⁸ Yet, there was no substantial evidence before the Board that would have supported a POSITA's reasonable expectation of success in trying to stream a video clip over the internet by the claimed mechanism of making repeated TCP requests for successive frames comprising the clips.

The evidence was undisputed that the type of streaming claimed, if carried out by TCP, introduces overhead of establishing TCP connections, and making TCP requests and responses, for every stream element (Appx3361-3362, Appx3365,

⁸ Though claim 4 is broader in this regard than claim 5, the Petition only substantively addressed TCP (claim 5).

Appx3369 (Hoarty Decl. ¶¶ 74, 85, 92)), considered to be excessive overhead for successful streaming. *Id.*; *see also* Appx2900 (Polish ¶ 87 (“TCP exacts a cost of 25% of the theoretical full bandwidth”)); Appx1060 (Google’s EX1011: “TCP is designed for reliable distribution of non-real-time data. When used for media streaming, it has the drawbacks of long and unpredictable latency, wasted network bandwidth, and bursty data flow. TCP ... caus[es] unpredictable and unbounded latency and wasted bandwidth.... TCP’s greediness in filling up the buffers incurs long latencies that are not tolerable in interactive streaming applications.”).

“An inference of nonobviousness is especially strong where the prior art’s teachings undermine the very reason being proffered as to why a person of ordinary skill would have combined the known elements.” *DePuy Spine*, 567 F.3d at 1326.

In its argument for combining Aharoni, Google argues that Hill contemplates video consisting *entirely* of key frames and then cites Aharoni’s teaching to use TCP for key frames. Resp. Br. at 44; Appx420-421 (Google PTAB Reply at 17-18). *WAG did not dispute that Aharoni taught using TCP for key frames*. Rather, what WAG argued was that the video stream in Aharoni clearly did *not* consist entirely of key frames and that this was not even a close question. Appx469-470 (PTAB Sur-reply at 17-18); Appx1012, 9:1-5. The fact that Aharoni’s video is overwhelmingly composed of *other* than key frames (*see* Opening Br. at 37)

underpins the rationale expressed in Aharoni of using TCP for *only* the *minority* of key frames existing in the types of streams that reference was dealing with. *See* Appx998, Appx1011-1012 (Aharoni Fig. 8, 8:56-63, 9:62-66). This rationale evaporates where the video contains *only* key frames, which do not offer the “scaleable [sic] compression” of the non-key frames that Aharoni leverages. *See* Appx1008 (Aharoni 2:29-46); Appx1012 (Aharoni 9:26-35).

Aharoni teaches to use TCP (a high-overhead protocol (*see* Appx3365 ¶¶84-85)) for a fraction of stream elements deemed important (the key frames), and UDP (a different, low-overhead protocol) for everything else. Appx1012, 9:57-10:20. Trying to adapt this to sending every frame *in the stream* via TCP undermines Aharoni’s stated premise that such will *not* be the case. Google’s assertion that Hill’s video consists entirely of key frames in fact presents the worst case for expectation of success.

This is not “attacking references individually” as Google asserts (Resp. Br. 44-45) (“WAG merely argued that Aharoni *alone* does not teach streaming every frame using TCP.” (emphasis in original)). To the contrary, the argument was that *neither* reference in the proposed combination taught this aspect, in that, as WAG pointed out, Hill did not teach anything at all about internet transports, “reliable” or otherwise. Opening Br. at 37-38; Appx356-357 (POR at 35-36). Given Aharoni’s stated preference to *not* to use TCP for the majority of the frames being

transmitted, and the disparagement of TCP by other references that Google relied upon (*e.g.*, Ravi (*see* Appx963, 12:19-22); Appx1060 (Google’s EX1011)), the record contains no evidence that there would be an RES in utilizing TCP for a stream consisting 100% of key frames as in Hill.

Ultimately, Google’s allegation for RES is simply that “*as a general matter*, ‘TCP is a suitable option for streaming video frames.’” Resp. Br. at 47 (emphasis added). But, as discussed above, the issue with regard to RES is not with respect to streaming in general (*i.e.*, regardless of the streaming mechanism), but rather with respect to the specific method of streaming as recited in the claims, which involves streaming by server responses to successive, repeated client requests for respective media data elements. None of the evidence cited by Google (*see* Resp. Br. at 47) addresses the suitability of TCP for such *pull-based* streaming as claimed. *See also Virtek Vision Int’l ULC v. Assembly Guidance Sys., Inc.*, 97 F.4th 882, 886 (Fed. Cir. 2024) (“It does not suffice to meet the motivation to combine requirement to recognize that two alternative arrangements ... were both known in the art.”).

It was undisputed that if carried out via TCP, a POSITA would have understood that each TCP request in the implementation as claimed “would require making a new connection for every transfer.” Appx3365 (Hoarty ¶¶84-85). The record evidence provides no basis to establish RES in such a system as claimed and actually confirms the opposite.

Hence, “[t]he Board erred by not properly considering that none of the cited [references] supported its reading of [the record evidence]” with respect to RES. *OSI Pharms., LLC v. Apotex Inc.*, 939 F.3d 1375, 1383–84 (Fed. Cir. 2019).

V. GOOGLE HAS FAILED TO IDENTIFY SUBSTANTIAL EVIDENCE ON WHICH THE BOARD COULD HAVE CONCLUDED THAT HILL TEACHES A MEDIA PLAYER MAINTAINING A RECORD IDENTIFYING THE LAST MEDIA DATA ELEMENT RECEIVED, AS IN CLAIMS 2, 7, AND 12

Underlying the issue as to claims 2, 7, and 12 (addressed below as to claim 2, which recites the limitations relevant to all three of claims 2, 7, and 12 under this ground) is that, as Google’s expert admitted, Google’s opening theory (*i.e.*, the one presented in the Petition)—*i.e.*, that, in Hill’s normal “forward” operation, the highest frame received would be the last frame—is based on the *assumption* that the frames will be received in the order that they are requested. Appx4852, 77:19-25. There was no evidence in the Petition to support this assumption, and WAG contested it. *See* Appx353.

Google thus now turns to adding TCP to the mix in an attempt to build some support for its assumption. Claim 2 does not invoke TCP. Nor did the Petition articulate any argument as to claim 2 with any reference to TCP (or Aharoni). *See* Appx167-168, Appx174-179. Rather, as above, the Petition’s entire position as to claim 2 (other than, again, a wholly conclusory add-on sentence as to “inherent or obvious” (Appx168 (Petition at 29)) was premised (as Google’s expert confirmed) on an unstated *assumption* that frames would arrive in order.

Google's argument in its Responsive Brief is based on combining Hill with Aharoni (which, as addressed above, actually teaches away from using TCP to send all media data elements), to *import* the use of TCP into claim 2 (which does not rely on TCP), so that, supposedly, the requested frames would *then* be received in order, thereby seeking to buttress the unsupported assumption of the Petition.

The supposition of Google's reformulated argument on appeal is that adding TCP would remedy the issue pointed out by WAG throughout the proceedings below and thus put the arriving *frames* in order after all. But Google cites nothing to show that this new fix would even work, certainly no substantial evidence that was in the record. It is pure attorney argument, submitted for the first time on appeal, no less.

Moreover, Google's new technical attorney assertion also doesn't follow at all from what Google does cite. TCP will put in order those elements comprising the response to *any single* TCP request. Claim 2, however (which again does not specify TCP), is dependent from claim 1, and as such entails *repeated* requests. Though the data elements within separate responses to the specified series of requests may each be *internally* ordered if sent via TCP, nothing (and certainly nothing in this record) says the responses to *successive repeated requests* will be arranged in order. For example, even if each sent via TCP, any of the separate responses could be indefinitely delayed, putting them out of order. Google's last-

minute appeal argument as to claim 2 thus has no factual basis, is fallacious, and no merit, even if it properly presented for review, which it is not.

VI. GOOGLE’S REQUEST FOR A REMAND IS WITHOUT MERIT

The Appellees prevailed on all issues below yet request remand.

Appellees each bore the burden to make their cases up front, in their very first papers. They have not identified any facts in their favor that the Board overlooked. They should not be given a second bite at the apple with a remand. *See Cutsforth, Inc. v. MotivePower, Inc.*, 643 F. App'x 1008, 1013 (Fed. Cir. 2016); *Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1366–67 (Fed. Cir. 2016); *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1381 (Fed. Cir. 2016).

CONCLUSION

The PTAB’s Final Written Decision should be reversed as to all challenged claims.

Dated: January 24, 2025
New York, NY 10174

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CERTIFICATE OF SERVICE

I, hereby certify that, on January 24, 2025, I electronically filed the foregoing with the Clerk of Court using the CM/ECF System, which will send notice of such filing to all registered users.

I further certify that, upon acceptance and request from the Court, the required paper copies of the foregoing will be deposited with United Parcel Service for delivery to the Clerk, UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT, 717 Madison Place, N.W., Washington, D.C. 20439.

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CERTIFICATE OF COMPLIANCE

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